

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** An optical device comprising:
 - a plurality of needles having channels;
 - a plurality of fibers inserted in the plurality of needles;
 - and a plurality of optical components aligned and connected with the plurality of fibers,

wherein said channels and/or said needles are tapered, and wherein each of said needles has dimensions of about 125 micron exit hole at the narrower end, about 125 micron length, about 175-200 micron entrance hole at the wider end, and about 250 micron between centers.
2. **(Original)** The optical device of claim 1 wherein the needles are microneedles.
3. **(Original)** The optical device of claim 1 wherein the optical components are vertical cavity surface emitting lasers.
4. **(Original)** The optical device of claim 1 wherein the optical components are photodetectors.
5. **(Original)** The optical device of claim 1 further comprising a plurality of photodetectors.
6. **(Original)** The optical device of claim 1 further comprising a sensing element.
7. **(Cancelled)**
8. **(Cancelled)**
9. **(Currently Amended)** The optical device of claim [[8]] 1, wherein the narrowed end of said tapered channel is narrower than the diameter of said fibers.
10. **(Previously Presented)** The optical device of claim 1, wherein said needles are fabricated using photolithography and/or laser drilling.
11. **(Previously Presented)** The optical device of claim 1, wherein said needles have needle bore and needle placement accurate to about 1 micron.

12. **(Previously Presented)** The optical device of claim 1, wherein said fibers are fixed inside said needles.
13. **(Previously Presented)** The optical device of claim 12, wherein said fibers are fixed inside said needles with epoxy.
14. **(Cancelled)**
15. **(Previously Presented)** The optical device of claim 1, wherein said needles are made of metal.
16. **(Previously Presented)** The optical device of claim 1, further comprising a layer of transparent underfill between said plurality of needles with said plurality of fibers inserted therein, and said plurality of optical components.
17. **(Currently Amended)** The optical device of claim [[8]] 1, wherein the void in said channels with said fibers inserted therein is filled with cured epoxy.
18. **(Previously Presented)** The optical device of claim 17, wherein a cured epoxy plug separates the narrower end of said needle or channel and the end of said fiber.
19. **(Previously Presented)** The optical device of claim 17, further comprising a cured epoxy lens outside the tip of said needle.
20. **(Previously Presented)** The optical device of claim 19, wherein said cured epoxy lens is spherical in shape.
21. **(Previously Presented)** The optical device of claim 6, wherein said sensing element comprises a matrix doped with calorimetric and/or fluorescent materials that are sensitive to environmental conditions.
22. **(Previously Presented)** The optical device of claim 6, wherein said sensing element is suitable for blood gas sensing, biological oxygen demand, or food safety.
23. **(Previously Presented)** The optical device of claim 6, wherein said sensing element is within or outside the tips of said needles.
24. **(Previously Presented)** The optical device of claim 21, wherein said calorimetric materials comprise environmentally sensitive dyes selected from rhodamines, bodipy dyes, ruthenium-based dyes, earth dyes, or metal intercalating dyes.

25. **(Previously Presented)** The optical device of claim 21, wherein said matrix is selected from: sol gels, hydrogels, polymers with a high gas or liquid permeability, or a hydrophobic matrix.